

REMARKS

Claims 1-44 were pending in the present application, and independent claims 1 and 25 were amended. New claims 45 to 60 have been added which correspond to what the Applicant believes to be allowable subject matter in view of indications by the Examiner. Reconsideration of the application is respectfully requested in view of the following responsive remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

In the office action of June 3, 2005, the following actions were taken:

- (1) Claims 1 and 25 were rejected under 35 U.S.C. 112, first paragraph;
- (2) Claims 1, 2, 9-13, 16-22, 24-26, 28-31, and 34 were rejected under 35 U.S.C 103(a) as being unpatentable over U.S. Patent No. 4,804,411 (hereinafter "Eida") in view of U.S. Patent No. 6,783,223 (hereinafter "Okada"); and
- (3) Claims 3-8, 14, 15, 23, 27, 32, and 33 were objected to as being dependent upon a rejected base claim, but were indicated as allowable if rewritten in independent form.

It is respectfully submitted that the presently pending claims be reconsidered and allowed. Applicants submit that each and every amendment throughout the prosecution of the present application is fully supported by the specification as originally filed, and that no new matter has been added.

Rejections under 35 U.S.C. 112, first paragraph

Claims 1 and 25 were rejected under 35 U.S.C. 112, first paragraph for the recitation of the term "combinations thereof." Though the Applicant disagrees with this characterization, the claim has been reworded to remove this specific language. Reconsideration is respectfully requested.

Rejections under 35 U.S.C. 103(a)

Before discussing the obviousness rejection herein, it is thought proper to briefly state what is required to sustain such a rejection. The issue under § 103 is whether the PTO has stated a case of *prima facie* obviousness. According to the MPEP § 2142, the Examiner has the burden and must establish a case of *prima*

facie obviousness by showing some motivation in a prior art reference to modify that reference, or combine that reference with multiple references, to teach all the claim limitations in the instant application. Applicant respectfully asserts that the presently pending claims are patentably distinct over the cited prior art, and that a *prima facie* case of obviousness cannot be maintained.

Specifically, Claims 1, 2, 9-13, 16-22, 24-26, 28-31, and 34 were rejected under 35 U.S.C. 103(a) as being unpatentable over Eida in view of Okada. As previously set forth in the prior office action response, Eida discloses various dimeric and trimeric dye structures bonded together with a linking group, where each of the dyes bonded together are identical. However, Eida does not teach of forming dyes that would be stable in the presence of interfering metals. Eida only teaches the presence of metals in two contexts: 1) metals can be present as part of a metalized dye, which by definition are a required component of the dye *per se*, and thus, cannot be interfering; and 2) alkali metal salts can be present, such as lithium chloride and sodium chloride, when the ink is used in an ink-jet system of the type which charges the ink, i.e. salt present as a resistance controller.

Because Eida does not disclose forming of dyes that would be stable in the presence of interfering metals, the Examiner has cited Okada, which teaches ink-jet architecture that utilizes certain types of ink-jet printheads that include transition metals and alloys.

To begin, there is no suggestion in Eida that its inks can be jetted from the ink-jet architecture of Okada, and thus, this combination is thought to be improper. Further, even if combinable, these metal plates or printheads in Okada are not generally thought to contribute to the releasing interfering ions as ink is passed therethrough. A design attribute of ink-jet architecture is to provide printhead material that does substantially not degrade in the presence of the ink. In other words, an ink-jet printhead that is not stable in the presence of an ink would be unusable over a short period of time. There is no suggestion that the Okada printhead is unstable. Furthermore, even if a small amount of metal ions were picked up by an ink-jet ink as the ink passed through the printhead, the amount would be so minute and insignificant that one skilled in the art would not consider the ions as being "interfering" because of basic lack of quantity. A few ions here or there would be indetectable with respect to print quality.

The Applicant has clearly described what is meant by "interfering" in the specification, where it states "[t]he term 'interfering metals' includes aluminum as well as transition metals such as iron, cobalt, nickel, copper, and chromium. These metals are often present in trace or residual amounts in alumina- or silica-containing porous media coatings." Porous media coatings almost always include free ions that can interact unfavorably with dyes, and it is these types of interfering metals that the invention seeks to avoid interaction with.

As a further note, it appears that the Examiner has overlooked the term "substantially stable" in claims 1 and 25. This term in the claim distinguishes the presently claimed invention over the dimeric dye structures taught as a whole in Eida. Starting on page 5, line 22, this term is clearly defined as follows:

The term "substantially stable," when referring to multimeric dye in the presence of interfering metals, means that a multimeric dye prepared in accordance with principles of the present invention will not substantially complex with interfering metals. Often, complexing groups such as ethers and amines, and/or complexing atoms such as phosphorus, oxygen, and sulfur, when placed in close proximity to one another in a molecular structure, can work together to complex metals. If trace or residual metals are present in porous media coatings, as is often the case, such configurations within a dye structure can act to complex with the trace metals, causing color characteristics or other properties of the dye to become undesirably altered. Substantially stable multimeric dyes in accordance with principles of the present invention can include from none to very few of these complexing groups and/or complexing atoms, or alternatively, if more than three of these complexing groups or complexing atoms are present, they are positioned at a great enough distance with respect to one another such that complexation between the multimeric dye and the residual metal is disfavored. In this configuration, the multimeric dye is said to be substantially stable, as it will not substantially react with these residual metals, even in their immediate presence.

In looking at Eida as a whole, no attempt is made to prepare dyes that are "substantially stable" in accordance with this definition. In fact, many structures allow

for the very type dye configuration that is counter to this definition, e.g., amines and other complexing groups in close proximity to one another, etc. Even though the general formulas of Eida in some instances are permissive of dyes in accordance with the Applicant's definition of "substantially stable," no distinction is made that favors one of these types of dyes over others. Thus, with respect to Eida's teaching of dimeric dye structures, each and every element is neither taught nor suggested by this reference as a whole. Reconsideration on these grounds is also respectfully requested.

Allowable subject matter

Some of the claims indicated as being allowable have been rewritten in independent form. These new independent claims include the limitation believed to be considered allowable, as well as the claim language of an independent claim as originally filed. As Eida and Okada do not teach all of the claim limitations found in new claims 45-60, each of these claims is now believed to be in condition for allowance.

In view of the foregoing, Applicants believe that claims 1-60 present allowable subject matter and allowance is respectfully requested. If any impediment to the allowance of these claims remains after consideration of the above remarks, and such impediment could be removed during a telephone interview, the Examiner is invited to W. Bradley Haymond (Registration No. 35,186) at (541) 715-0159 so that such issues may be resolved as expeditiously as possible.

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Respectfully submitted,



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